

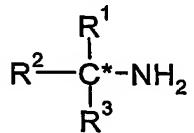
CLAIMS

1. Use as a SCA in coating composition of a rheology control agent obtainable by reacting one or more polyisocyanates with one or more monoamines or by reacting one or more polyamines with one or more monoisocyanates to form a polyurea compound, wherein at least one of the mono- or polyamine or mono- or polyisocyanate is optically active, not as racemic mixture, having a chiral carbon atom adjacent to an amine or isocyanate group, with the proviso that the amine is not an optically active amino acid and not an optically active amino acid ester or its isocyanate derivative.

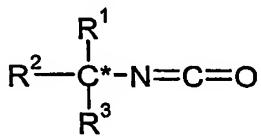
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2. Use as a SCA in coating composition of a rheology control agent according to claim 1, obtainable by reacting one or more polyisocyanates with one or more optically active carbon-substituted methylamines of the formula (I)



15 , not as racemic mixture , or by reacting one or more polyamines with one or more optically active isocyanates of the formula (II)



20 , not as racemic mixture, wherein each of R^1 , R^2 , and R^3 are independently selected from the group consisting of hydrogen and linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or a heteroatom containing group, whereby each of R^1 , R^2 , and R^3 is different such that the carbon atom is a chiral centre, with the proviso that the amine of formula (I) is not an optically active amino acid and not an optically active amino acid ester or its isocyanate derivative according to formula II.

3. Use according to claim 2 wherein

- if one or more polyisocyanates are reacted with one or more optically active carbon-substituted methylamines of the formula (I), the polyisocyanates are selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups (as well as condensed dimer and trimer derivatives as uretdione, isocyanurate or biuret triimers) and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates, and
- if one or more polyamines are reacted with one or more optically active isocyanates of the formula (II), the polyamines are selected from the group consisting of substituted or unsubstituted linear aliphatic polyamines with an even number of carbon atoms in the chain between two amino groups and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyamines.

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4. Use according to claims 1 to 3 wherein the rheology control agent has the general formula X-[urea-chiral centre]_n, X being the linking group of the molecule, and n being the number of [urea-chiral centre] moieties (n is 2 or more).

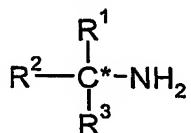
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5. Use according to any one of claims 1- 4, wherein the rheology control agent is the reaction product of an optically active polyamine that is reacted with a mono isocyanate.

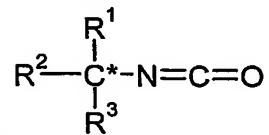
25 6. Use according to any one of claims 1-5 in an isocyanate-polyol-based coating composition.

7. Use according to any one of claims 1-6 in an acryloyl-based coating composition.

8. A rheology modification agent obtainable by reacting one or more polyisocyanates selected from the group consisting of substituted or unsubstituted linear aliphatic polyisocyanates with an even number of carbon atoms in the chain between two isocyanate groups and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyisocyanates with one or more optically active carbon-substituted methylamines of the formula (I)

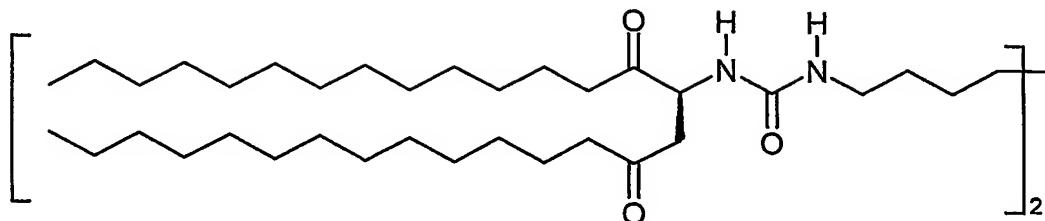


, not as racemic mixture, or by reacting one or more polyamines selected from the group consisting of substituted or unsubstituted linear aliphatic polyamines with an even number of carbon atoms in the chain between two amino groups and substituted or unsubstituted arylene, aralkylene, and cyclohexylene polyamines with one or more optically active



monoisocyanates of the formula (II) , not as racemic mixture, wherein each of R¹, R², and R³ are independently selected from the group consisting of hydrogen and linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or a heteroatom containing group, whereby each of R¹, R², and R³ is different such that the carbon atom is a chiral centre, with the proviso that the amine of formula (I) is not an optically active amino acid and not an optically active amino acid ester, and the isocyanate of formula II is not derived from the amino group of an optically active amino acid or optically active amino acid ester, and with the further proviso that the resulting rheology modification agent is not a compound of the formula (III)

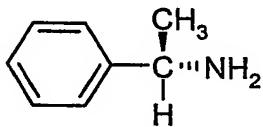
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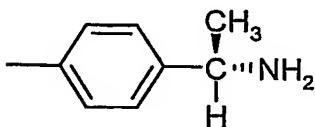
9. A rheology modification agent according to claim 8 with the general formula X-[urea-chiral centre]_n, X being the linking group of the molecule and n being
5 the number of [urea-chiral centre] moieties (n is 2 or more).

10. A rheology agent according to claim 8 or 9 or a use according to any one of claims 1-7 wherein the optically active amine of formula (I) is selected from compounds of the formulae IV) and V),
10 wherein R is a linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl or a heteroatom containing group.

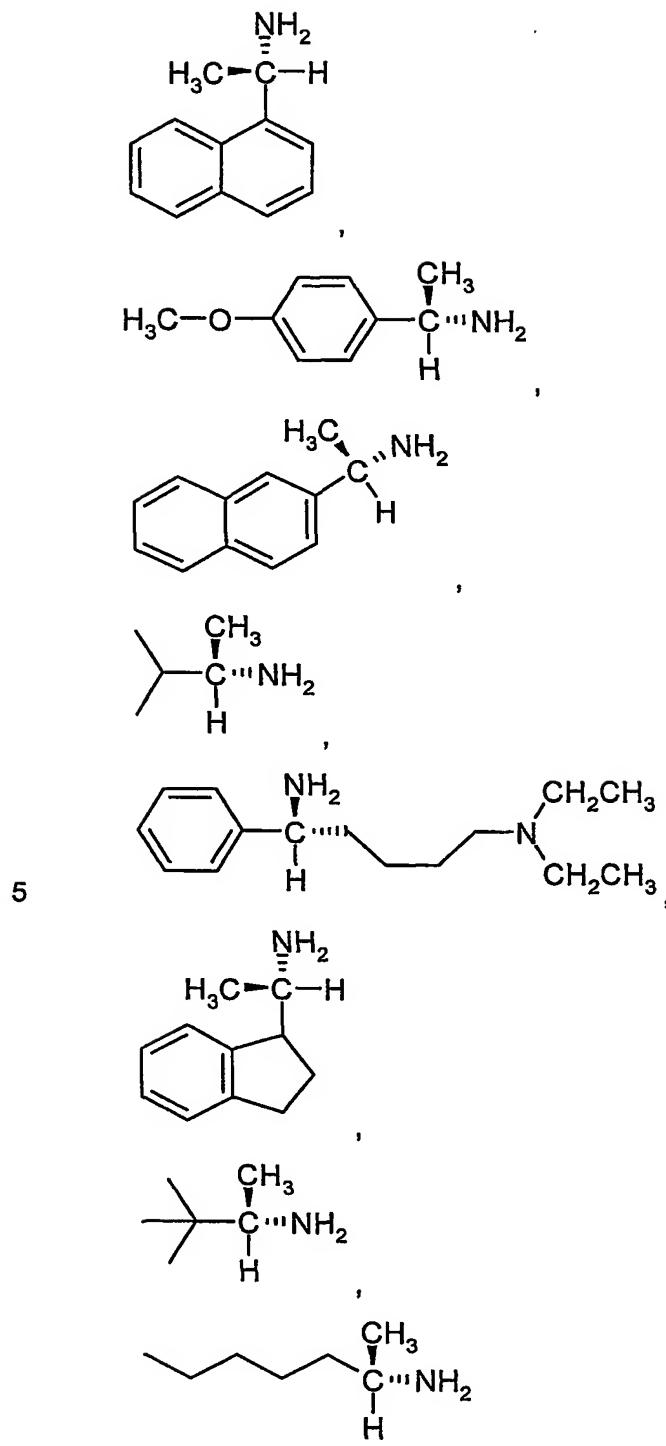
11. A rheology agent according to claims 8 or 9 or a use according to any one of claims 1-6 wherein the optically active amine of formula (I) is selected from compounds of the formulae

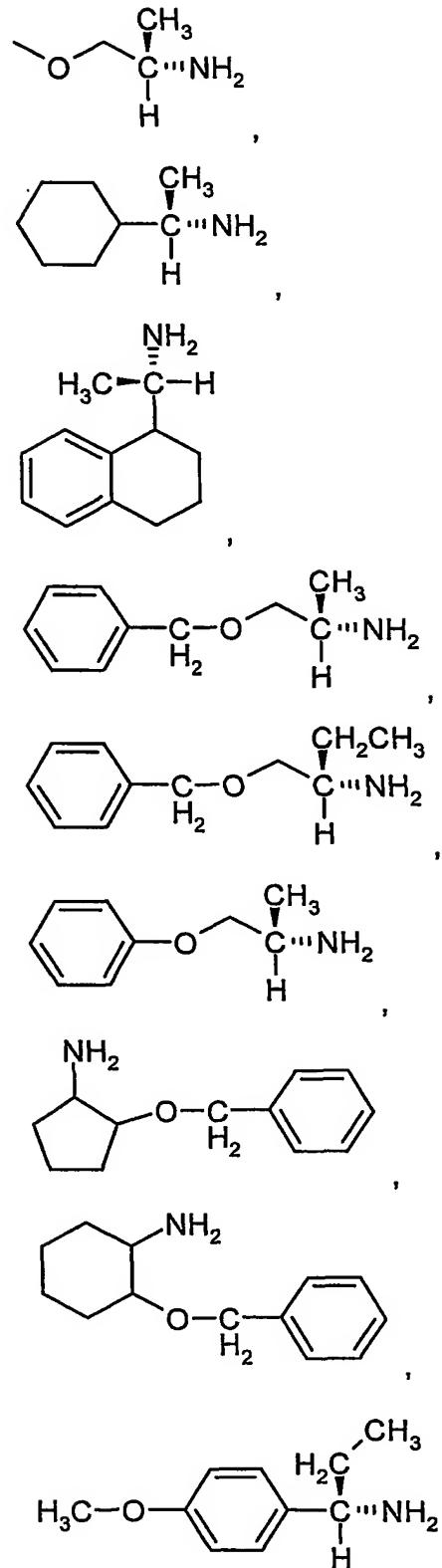


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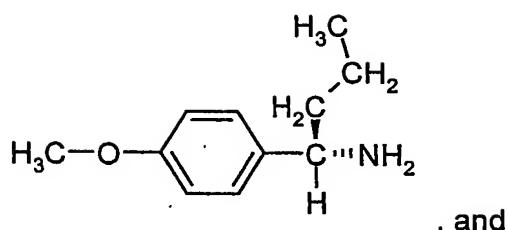


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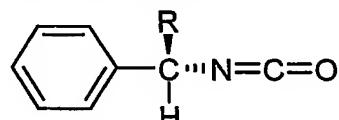


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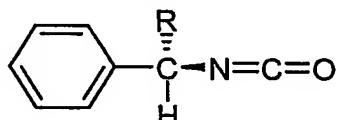


(S/R)-2-amino-hexane and (S/R)-1-phenylpropylamine.

12. A rheology agent according to claims 8 or 9 or a use according to any one of
10 claims 1-7 wherein the optically active isocyanate of formula (II) is selected



from compounds of the formulae VI) and



VII), wherein R is a linear or branched, substituted or unsubstituted, saturated or unsaturated hydrocarbyl.

15 13. A rheology agent or a use according to any one of claims 8-12 wherein the hydrocarbyl is selected from the group consisting of linear, cyclic, or branched, substituted or unsubstituted, saturated or unsaturated C1-C25 alkyl, aryl, aralkyl, and alkenyl, preferably selected from the group consisting of linear or branched C1-C25 alkyl, even more preferably selected from the group 20 consisting of linear or branched C1-C5 alkyl, and most preferably R is a methyl or ethyl group.

14. A rheology agent according to claims 8 or 9 or a use according to any one of claims 1-7 wherein the optically active amine of formula (I) is α -methylbenzylamine and the polyisocyanate is hexamethylene-1,6-diiisocyanate.

15. Use of a rheology modification agent according to claim 8-14 as a rheology control agent in:

- adhesives,
- printing inks,
- detergents and cleaning applications,
- paper and paperboard industries,
- textile, leather, and carpet applications,
- construction compounds,
- pigment compositions,
- mining,
- cosmetics, and/or
- coating compositions

16. Use according to claim 15, wherein the rheology control agent is used in a conventional polyol-based two component (2K) coating system cured with polyisocyanate compounds at a temperature of 25°C to 150°C.

17. Use according to claim 15, wherein the rheology control agent is used in a formulation based on acryloyl functional compounds that is cured in a conventional way.

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18. Use according to any one of claims 1-7, and 15-17, further including the step of applying a coating film of the coating composition onto a substrate before said coating film is cured.
- 5 19. Concentrates of a rheology agent according to any one of claims 8-14 in a binder or inert diluent.
20. Compositions with improved rheology comprising a rheology agent according to any one of claims 8-14.

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21. Compositions according to claim 20 which is a coating, printing ink or adhesive composition.